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<p>(21) International Application Number: PCT/SE88/00090</p> <p>(22) International Filing Date: 29 February 1988 (29.02.88)</p> <p>(71) Applicant (for all designated States except US): NIX-FLU AB [SE/SE]; Hamnen, S-430 93 Hålsö (SE).</p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only) : RÖNNBÄCK, Sture [SE/SE]; Varvsvägen 29, S-430 93 Hålsö (SE).</p> <p>(74) Agents: FERKINGHOFF, C.-G. et al.; Alfons Hedbergs Patentbyrå AB, Aschebergsgatan 35, S-411 33 Göteborg (SE).</p> <p>(81) Designated States: AT (European patent), AU, BE (European patent), CH (European patent), DE (European patent), DK, FI, FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), NO, SE (European patent), US.</p>		<p>Published <i>With international search report.</i></p>
<p>(54) Title: BABY NAPPY PANTS</p> <div> </div> <p>(57) Abstract</p> <p>Baby nappy pants comprising a pair of briefs (1) in which are securely attached a nappy (2) and a liquid impermeable layer (3) which is positioned externally of the nappy (2). In order to make the briefs (1) easy to remove they are also provided with a connective means, such as a tear strip (5) allowing the briefs to be opened up at one of their sides.</p>		

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Baby Nappy Pants

The subject invention concerns baby nappy pants which are intended to be used for toddlers after the first stage of babyhood or infancy.

5 Various kinds of disposable nappies or diapers are available on the market today. In its most simple version the nappy consists of a separate liquid-absorbing member of disposable material which is placed inside a plastics cloth or wrapper of a generally triangular shape with flaps which are used to tie the wrapper with the nappy inside it in position about the bottom of the baby or toddler.

10 In a more expensive variety the nappy and the wrapper are interconnected into a single, disposable unit. The flaps of the wrapper portion may have fasteners of e.g. Velcro type or other reclosable type. This more sophisticated nappy has been developed to make nappy changes more convenient and quicker than what is possible when the nappy and the
15 wrapper form separate items.

However, in both cases it is necessary to use ordinary briefs on top of the nappy and wrapper if one wishes to make the child look more dressed.

20 The subject invention provides baby nappy pants which represent a further development of the disposable nappies available on the market today and which include a liquid-absorbing nappy having a liquid-impermeable layer positioned exteriorly thereof. The nappy pants in accordance with the invention are characterized therein that they consist of a pair of briefs having fixedly secured thereon the
25 liquid-absorbing nappy proper as well as the liquid-impermeable layer, said briefs being provided on at least one of their sides with a connective means, such as a tear strip by means of which the briefs may be opened up to make them easily removable.

30 The invention will be described in closer detail in the following with reference to the accompanying drawings, wherein

Fig. 1 is a lateral view of the pelvis part of a child wearing the garment in accordance with the invention, and

Fig. 2 is a similar view showing the garment when in an open position.

The nappy pants in accordance with the invention consist of briefs 1 which are intended to be discarded after use. Inside the briefs are positioned a conventional, liquid-absorbing nappy unit 2 and, exteriorly thereof, a liquid-impermeable layer 3 comparable to the above-mentioned plastics wrapper. In addition, the briefs preferably include a further layer 4 of a textile material or other soft material, such as paper of a textile or cloth-like character. This layer 4 forms the exterior layer of the briefs.

In accordance with the invention the briefs 1 have an easily openable part. In accordance with the embodiment illustrated in the drawing the briefs are provided with a tear strip 5 with the aid of which the briefs may be opened up at one of their sides in the manner illustrated in Fig. 2. This makes the briefs 1 easy to remove which is a considerable advantage, particularly when the nappy is soiled by excrements.

With the nappy pants in accordance with the invention several advantages are gained. The putting-on of a fresh nappy need no longer be done in several steps involving first placing the fresh nappy inside its wrapper or, alternatively putting on the combined nappy and wrapper, followed by the step of putting on a pair of ordinary textile briefs on top of the nappy/wrapper combination. Instead, all these parts are put on as one single unit in the same manner as a pair of ordinary briefs. The external layer 4 of textile or paper material may be patterned or coloured, to give the briefs an appearance similar to that of an ordinary piece of garment rather than underpants.

Conventional briefs which are used on top of the nappy/wrapper combination often are soiled and stained by excrements as a result of leakage, because the nappy happens to be positioned askew, or for some other reason, and the briefs must be put in the wash. Such staining is of no consequence when the nappy pants in accordance with the invention are used, because they are intended to be discarded after use and be replaced by a new pair.

The invention is not limited to the embodiment illustrated in the drawing and described in the foregoing but could be modified in a variety of ways within the scope of the appended claims. For instance, the means for opening up the briefs at their side could be varied in several ways within the scope of the invention, and could e.g. be Velcro

fasteners or other types of fasteners that allow the briefs to be opened up easily and conveniently. In order further to facilitate removal of the nappy pants the briefs 1 could, as an alternative, be provided with a tear strip 5 on either side.

C L A I M S

1. Baby nappy pants comprising a liquid-absorbing nappy (2) and a liquid-impermeable layer (3) positioned externally of said nappy, characterized therein that they comprise a pair of briefs (1) in which said nappy (2) together with the liquid impermeable layer (3) are fixedly secured and which pair of briefs, at least on one of its sides, is provided with a connective means, such as a tear member (5), by means of which the briefs (1) may be opened up to allow the briefs to be removed easily.
2. Nappy pants as claimed in claim 1, characterized therein that the external face of the briefs (1) consists of a layer of cloth (4) or a layer of a cloth-like material.
3. Nappy pants as claimed in any one of the preceding claims, characterized therein that the external face of the briefs (1) is patterned.

Fig.1

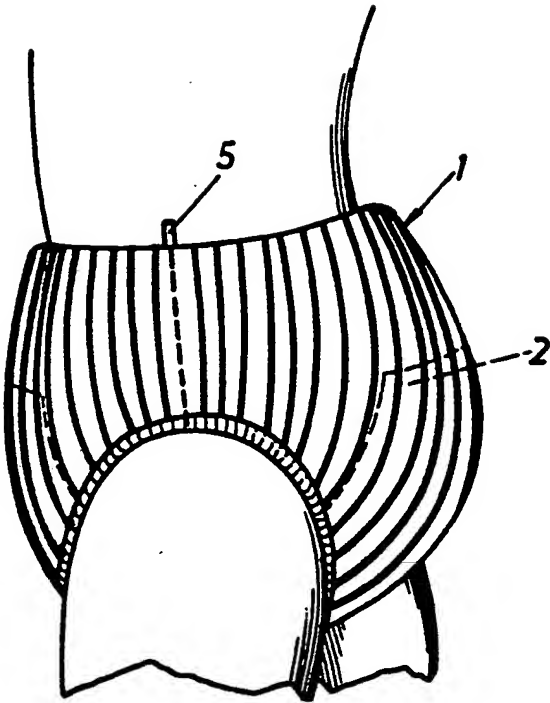
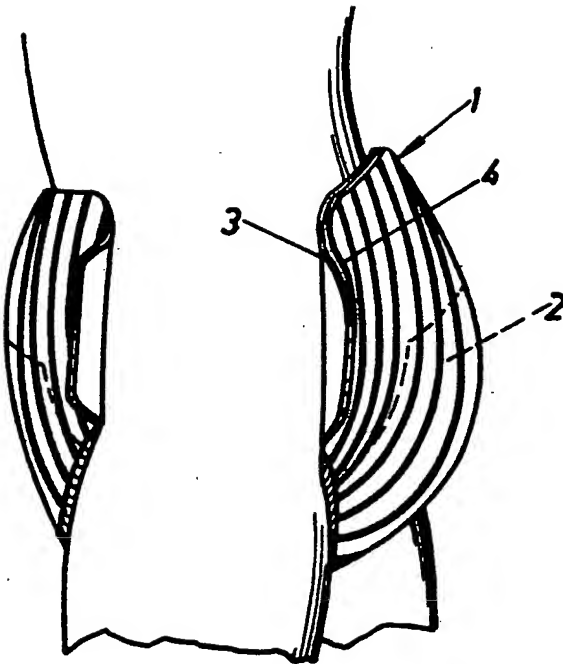
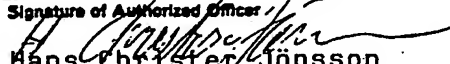
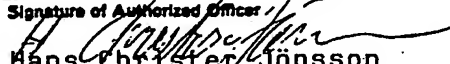
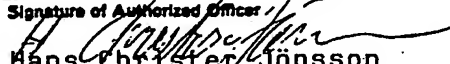


Fig.2



INTERNATIONAL SEARCH REPORT

International Application No PCT/SE88/00090

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III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Category ¹⁰</th> <th style="width: 70%;">Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²</th> <th style="width: 20%;">Relevant to Claim No. ¹³</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">X</td> <td>US, A, 4 701 171 (BOLAND ET AL) 20 October 1987</td> <td style="text-align: center;">1-3</td> </tr> <tr> <td style="text-align: center;">X</td> <td>US, A, 4 619 649 (ROBERTS) 28 October 1986</td> <td style="text-align: center;">1-3</td> </tr> <tr> <td style="text-align: center;">X</td> <td>US, A, 4 610 680 (LA FLEUR) 9 September 1986</td> <td style="text-align: center;">1-3</td> </tr> <tr> <td style="text-align: center;">X</td> <td>US, A, 4 555 245 (ARMBRUSTER) 26 November 1985</td> <td style="text-align: center;">1-3</td> </tr> <tr> <td style="text-align: center;">X</td> <td>US, A, 4 522 874 (POMMEZ) 11 June 1985 & AU, 572860</td> <td style="text-align: center;">1-3</td> </tr> <tr> <td style="text-align: center;">X</td> <td>US, A, 2 675 805 (E.B. TRIMBLE) 20 April 1954</td> <td style="text-align: center;">1-3</td> </tr> <tr> <td style="text-align: center;">E</td> <td>SE, B, 454 319 (NIXFLU AB) 25 April 1988</td> <td style="text-align: center;">1-3</td> </tr> </tbody> </table> <div style="margin-top: 10px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>¹⁰ Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 48%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"A" document member of the same patent family</p> </div> </div> </div>			Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³	X	US, A, 4 701 171 (BOLAND ET AL) 20 October 1987	1-3	X	US, A, 4 619 649 (ROBERTS) 28 October 1986	1-3	X	US, A, 4 610 680 (LA FLEUR) 9 September 1986	1-3	X	US, A, 4 555 245 (ARMBRUSTER) 26 November 1985	1-3	X	US, A, 4 522 874 (POMMEZ) 11 June 1985 & AU, 572860	1-3	X	US, A, 2 675 805 (E.B. TRIMBLE) 20 April 1954	1-3	E	SE, B, 454 319 (NIXFLU AB) 25 April 1988	1-3
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IV. CERTIFICATION <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Date of the Actual Completion of the International Search</td> <td style="width: 50%; border: none;">Date of Mailing of this International Search Report</td> </tr> <tr> <td style="border: none; text-align: center; padding: 10px;">1988-09-21</td> <td style="border: none; text-align: center; padding: 10px;">1988-09-29</td> </tr> <tr> <td style="border: none;">International Searching Authority</td> <td style="border: none;">Signature of Authorized Officer</td> </tr> <tr> <td style="border: none; text-align: center; padding: 10px;">Swedish Patent Office</td> <td style="border: none; text-align: center; padding: 10px;">  Hans Christer Jönsson </td> </tr> </table>			Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	1988-09-21	1988-09-29	International Searching Authority	Signature of Authorized Officer	Swedish Patent Office	 Hans Christer Jönsson																
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